

CLAIMS:

1. A lock assembly comprising:

5 a deadbolt assembly having a deadbolt that is movable between an unlocked position, wherein the deadbolt is in a retracted position and a locked position, wherein the deadbolt is in an extended position;

10 a first lock actuating means removably connected to the deadbolt for moving the deadbolt between the unlocked and locked positions; and

15 a second lock actuating means connected to the deadbolt for moving the deadbolt between the unlocked and locked positions and wherein the second lock actuating means has a lockout position wherein the deadbolt is connected to the second lock actuating means but disconnected from the first lock actuating means, rendering the first lock actuating means inoperable.

20 2. The lock assembly of claim 1, wherein in the lockout position the deadbolt is in the locked position and can be moved to the unlocked position by the second lock actuating means but cannot be moved to the unlocked position by the first lock actuating means.

25 3. The lock assembly of claim 1, wherein the second lock actuating means has an arm that is connected to the deadbolt and the first lock actuating means in the unlocked and locked positions, and wherein the arm is connected to the deadbolt but disconnected from the first lock actuating means in the lockout position.

30 35 4. The lock assembly of claim 3, wherein the deadbolt assembly includes a cam connected to the deadbolt for moving the deadbolt between the unlocked and locked positions, and wherein the cam includes a slot for receiving the arm.

5 5. The lock assembly of claim 4, wherein the first lock
actuating means includes protrusions for receiving the arm.

5 6. The lock assembly of claim 1, wherein the first lock
actuating means is rotary and the second lock actuating means is
rotary.

10 7. The lock assembly of claim 6, wherein the second lock
actuating means includes an arm that engages a slot in a cam
that is connected to the deadbolt for moving the deadbolt
between the unlocked and locked positions and wherein the first
lock actuating means includes protrusions that engage the arm in
the unlocked and locked positions but do not engage the arm in
15 the lockout position.

20 8. The lock assembly of claim 7, wherein rotation of the
second lock actuating means causes corresponding rotation of the
arm, which causes the cam to move the deadbolt between the
unlocked and locked positions.

25 9. The lock assembly of claim 7, wherein rotation of the
first lock actuating means causes the arm to rotate, which
causes the cam to move the deadbolt between the unlocked and
locked positions.

30 10. The lock assembly of claim 8, wherein the second lock
actuating means is mounted on a cover plate that has a
protrusion and wherein the second lock actuating means includes
an override handle having a groove that mates with the
protrusion, such that a relative movement of the override
handle with respect to the protrusion of the cover plate causes
the override handle to be laterally displaced from the cover, in
turn causing the arm to disconnect from the first lock actuating
means.

11. The lock assembly of claim 1, wherein the deadbolt is biased towards the unlocked position.

5 12. The lock assembly of claim 11, wherein the deadbolt assembly includes a bolt guide having an opening for receiving the deadbolt, and wherein the deadbolt has a shoulder and the bolt guide opening has a shoulder, such that a compression element disposed between the shoulders biases the deadbolt towards the unlocked position.

10 13. The lock assembly of claim 11, wherein the deadbolt assembly includes a bolt guide having an opening for receiving the deadbolt, the opening also having a groove with a snap ring displaced therein and wherein the deadbolt has a shoulder, such that a compression element disposed between the shoulder and the snap ring biases the deadbolt towards the unlocked position.

15 14. The lock assembly of claim 1, wherein the first lock actuating means is mounted to a housing assembly and wherein the lock assembly further includes a force transmission means for transmitting an outside force acting on the first lock actuating means to the housing assembly.

20 15. The lock assembly of claim 14, wherein the first lock actuating means is mounted to the housing assembly through at least one nut and wherein the housing assembly includes an opening having a groove with at least one snap ring displaced therein, wherein the at least one snap ring is adjacent to the at least one nut, such that the outside force acting on the first lock actuating means is transferred from the at least one nut to the at least one snap ring to the housing assembly.

25 16. A lock assembly comprising:
a deadbolt assembly having a cam connected to a deadbolt

for moving the deadbolt between an unlocked position, wherein
the deadbolt is in a retracted position and a locked position,
5 wherein the deadbolt is in an extended position;

a housing assembly having a first rotary lock actuating
means removably connected to the deadbolt for moving the
deadbolt between the unlocked and locked positions; and

10 a second rotary lock actuating means connected to the
housing assembly and to the deadbolt for moving the deadbolt
between the unlocked and locked positions and wherein the second
lock actuating means has a lockout position wherein the deadbolt
is connected to the second lock actuating means but disconnected
from the first rotary lock actuating means, rendering the first
15 rotary lock actuating means inoperable.

17. The lock assembly of claim 16, wherein the second
rotary lock actuating means includes a rotary handle having an
arm that engages a slot in the cam and wherein the first rotary
20 lock actuating means includes protrusions that engage the arm in
the unlocked and locked positions but do not engage the arm in
the lockout position.

18. The lock assembly of claim 17, wherein rotation of the
rotary handle causes a corresponding rotation of the arm, which
25 causes the cam to move the deadbolt between the unlocked and
locked positions.

19. The lock assembly of claim 17, wherein rotation of the
first rotary lock actuating means causes the arm to rotate,
30 which causes the cam to move the deadbolt between the unlocked
and locked positions.

20. The lock assembly of claim 17, wherein the second lock
actuating means is mounted on a cover plate that has a
35 protrusion and wherein the second lock actuating means includes

an override handle having a groove that mates with the protrusion, such that a relative movement of the override handle with respect to the protrusion of the cover plate causes the override handle to be laterally displaced from the cover, in turn causing the arm to disconnect from the first rotary lock actuating means.

10 21. The lock assembly of claim 16, wherein the deadbolt is biased towards the unlocked position.

15 22. The lock assembly of claim 21, wherein the deadbolt assembly includes a bolt guide having an opening for receiving the deadbolt, and wherein the deadbolt has a shoulder and the bolt guide opening has a shoulder, such that a compression element disposed between the shoulders biases the deadbolt towards the unlocked position.

20 23. The lock assembly of claim 16, further comprising a force transmission means for transmitting an outside force acting on the first rotary lock actuating means to the housing assembly.

25 24. The lock assembly of claim 23, wherein the first rotary lock actuating means is mounted to the housing assembly through at least one nut and wherein the housing assembly includes an opening having a groove with at least one snap ring displaced therein, wherein the at least one snap ring is adjacent to the at least one nut, such that the outside force 30 acting on the first rotary lock actuating means is transferred from the at least one nut to the at least one snap ring to the housing assembly.

35 25. A method of operating a lock assembly comprising:
positioning the lock assembly in an unlocked position,

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wherein a lock assembly deadbolt is in a retracted position, by
actuating either a first lock actuating means or a second lock
5 actuating means in an unlocking direction, wherein in the
unlocked position the deadbolt is engaged with both the first
lock actuating means and the second lock actuating means;

positioning the lock assembly in a locked position, wherein
the deadbolt is in an extended position, by actuating either the
10 first lock actuating means or the second lock actuating means in
a locking direction, wherein in the locked position the deadbolt
is engaged with both the first lock actuating means and the
second lock actuating means; and

positioning the lock assembly in a lockout position by
15 actuating the second lock actuating means, wherein in the
lockout position the deadbolt is engaged with the second lock
actuating means and is disengaged with the first lock actuating
means.

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